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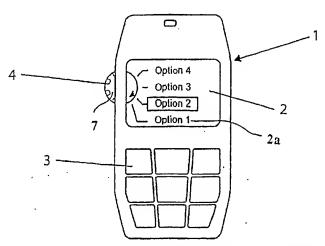
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(54) Title: DIGITAL DISPLAY



(57) Abstract: A mobile telephone (1) comprises an LCD (liquid crystal display) screen (2) for visually displaying data items (2a), status and other relevant information to a user. The mobile telephone (1) includes a keypad (3) to enable a user to input information such as numbers or letters, and some functions of the telephone may also be accessed and/or selected by means of the keypad (3). The mobile telephone (1) further comprises a rotary scroller input means (4) located on the side of the telephone for convenient operation thereof by a user. The input means (4) is mounted in the housing of the telephone (1) such that only a portion (7) thereof is visible and accessible to the user externally of the telephone housing. The rest of the input means (4) is mounted within, and obscured by, the housing of the telephone (1). In fact, the 'invisible' portion of the input means (4) is located directly behind the display screen (2), with the axis of rotation (6) of the input means (4) being substantially perpendicular to the plane of the screen (2). The "invisible" portion of the input means (4) is represented (both visually and operationally) on the screen (2).



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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

## INTERNATIONAL SEARCH REPORT

Internal Application No PCT/GB 02/05146

		FC1/GB U2/U5146			
Calegory *	ation) DOCUMENTS CONSIDERED TO BE RELEVANT  Chairon of occument, with indication where appropriate, of the relevant passages		Relevant to claim No.		
Calagory	· ·				
А	US 5 982 355 A (JAEGER DENNY ET AL) 9 November 1999 (1999-11-09) claim 1; figure 32		1-14		
A	US 5 945 985 A (BARNETT KENNETH C ET AL) 31 August 1999 (1999-08-31) claim 7; figure 1	1-14			
A	US 6 037 882 A (LEVY DAVID H) 14 March 2000 (2000-03-14) Claim 1; figure 8		1-14		
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### INTERNATIONAL SEARCH REPORT

information on patent family members

Internal Application No PCT/GB 02/05146

					'	FC1/68 UZ/U5146	
	ent document in search report		Publication date		Patent family member(s)		Publication date
DE :	19752054	A	27-05-1999	DE	19752054	A1	27-05-1999
EP ;	1028570	A	16-08-2000	EP CN JP US	1028570 1263425 2000231371 6600936	A A	16-08-2000 16-08-2000 22-08-2000 29-07-2003
US 5	5936611	A <sup>.</sup>	10-08-1999	· JP CA	9130695 2189313		16-05-1997 03-05-1997
US 5	825353	Α.	20-10-1998	US	6392640	B1	21-05-2002
US 5	982355	A	09-11-1999	US WO US	5572239 0133539 5841428 5805146 5936613 5777603 5774115 5805145 5786811 6441806 5977955 5712661 6275217 8129094 0727082 9505163 9512877	A1 A A A A A B1 A A B1 A	05-11-1996 10-05-2001 24-11-1998 08-09-1998 10-08-1999 07-07-1998 30-06-1998 08-09-1998 28-07-1998 27-08-2002 02-11-1999 27-01-1998 14-08-2001 23-05-1995 21-08-1996 20-05-1997 11-05-1995
US 5	945985 	A 	31-08-1999	US	5519809	A	21-05-1996
US 6	037882	A	14-03-2000	NONE			